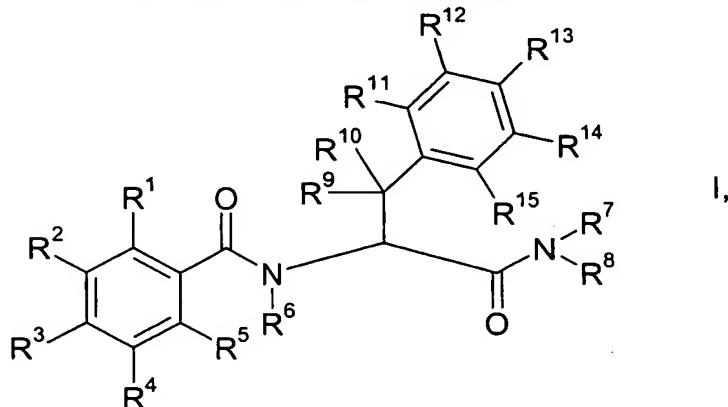


We claim:

1. A benzoyl-substituted phenylalanineamide of the formula I



5 in which the variables are as defined below:

R<sup>1</sup> is halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy, nitro, hydroxycarbonyl, C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl, C<sub>1</sub>-C<sub>6</sub>-haloalkylthio or phenyl;

10 R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> are hydrogen, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy, nitro, amino, C<sub>1</sub>-C<sub>6</sub>-alkylamino, di(C<sub>1</sub>-C<sub>6</sub>-alkyl)amino, C<sub>1</sub>-C<sub>6</sub>-alkylthio or C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl;

15 R<sup>6</sup>, R<sup>7</sup> are hydrogen, hydroxyl or C<sub>1</sub>-C<sub>6</sub>-alkoxy;

R<sup>8</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-cyanoalkyl or C<sub>1</sub>-C<sub>6</sub>-haloalkyl;

R<sup>9</sup> is OR<sup>16</sup>, SR<sup>17</sup> or NR<sup>18</sup>R<sup>19</sup>;

20 R<sup>10</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub>-alkyl;

25 R<sup>11</sup>, R<sup>12</sup> are hydrogen, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl, hydroxyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy, hydroxyl, nitro, hydroxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, tri(C<sub>1</sub>-C<sub>6</sub>-alkyl)silyloxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio, (hydroxycarbonyl)-C<sub>1</sub>-C<sub>6</sub>-alkyl, (C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl)-C<sub>1</sub>-C<sub>6</sub>-alkyl, (hydroxycarbonyl)-C<sub>2</sub>-C<sub>6</sub>-alkenyl, (C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl)-C<sub>2</sub>-C<sub>6</sub>-alkenyl, (hydroxycarbonyl)-C<sub>1</sub>-C<sub>4</sub>-alkoxy, (C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl)-C<sub>1</sub>-C<sub>4</sub>-alkoxy, (C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyl)oxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, hydroxycarbonyl-C<sub>1</sub>-C<sub>4</sub>-alkoxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, (C<sub>1</sub>-C<sub>4</sub>-alkylsulfonyl)oxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkyl-O-

C(O)-[C<sub>1</sub>-C<sub>4</sub>-alkyl-O]<sub>3</sub>-C<sub>1</sub>-C<sub>4</sub>-alkyl, carbamoyloxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, (C<sub>1</sub>-C<sub>4</sub>-alkylaminocarbonyl)oxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, [di(C<sub>1</sub>-C<sub>4</sub>-alkyl)aminocarbonyl]oxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, [(C<sub>1</sub>-C<sub>4</sub>-haloalkylsulfonyl)aminocarbonyl]oxy-C<sub>1</sub>-C<sub>4</sub>-alkyl, benzyloxy, where the phenyl ring may be substituted by 1 to 3 radicals from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl,  
 5 amino, C<sub>1</sub>-C<sub>4</sub>-alkylamino, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, (C<sub>1</sub>-C<sub>4</sub>-alkylsulfonyl)-amino, C<sub>1</sub>-C<sub>4</sub>-(haloalkylsulfonyl)amino, (C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyl)amino, carbamoylamino, (C<sub>1</sub>-C<sub>4</sub>-alkylamino)carbonylamino, [di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino]carbonylamino, [(C<sub>1</sub>-C<sub>4</sub>-haloalkylsulfonyl)aminocarbonyl]-amino, phenyl or heterocyclyl, where the phenyl and the heterocyclyl radical of the two last-mentioned substituents may carry 1 to 3 radicals from the following group: halogen, nitro, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, hydroxycarbonyl and C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl;  
 10  
 15 R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup> are hydrogen, halogen, cyano, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>1</sub>-C<sub>6</sub>-haloalkoxy, nitro, hydroxyl, C<sub>1</sub>-C<sub>4</sub>-alkylthio or benzyloxy;  
 20 R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup> are hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, tri(C<sub>1</sub>-C<sub>6</sub>-alkyl)silyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-alkenyl, C<sub>3</sub>-C<sub>6</sub>-alkynyl, C<sub>3</sub>-C<sub>6</sub>-haloalkenyl, C<sub>3</sub>-C<sub>6</sub>-haloalkynyl, formyl, C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkylcarbonyl, C<sub>2</sub>-C<sub>6</sub>-alkenylcarbonyl, C<sub>2</sub>-C<sub>6</sub>-alkynylcarbonyl, C<sub>1</sub>-C<sub>6</sub>-alkoxycarbonyl, C<sub>3</sub>-C<sub>6</sub>-alkenylloxycarbonyl, C<sub>3</sub>-C<sub>6</sub>-alkynylloxycarbonyl, C<sub>1</sub>-C<sub>6</sub>-alkylaminocarbonyl, C<sub>3</sub>-C<sub>6</sub>-alkenylaminocarbonyl, C<sub>3</sub>-C<sub>6</sub>-alkynylaminocarbonyl, C<sub>1</sub>-C<sub>6</sub>-alkylsulfonylaminocarbonyl, C<sub>1</sub>-C<sub>6</sub>-haloalkylsulfonylaminocarbonyl, di(C<sub>1</sub>-C<sub>6</sub>-alkyl)aminocarbonyl, N-(C<sub>3</sub>-C<sub>6</sub>-alkenyl)-N-(C<sub>1</sub>-C<sub>6</sub>-alkyl)aminocarbonyl, N-(C<sub>3</sub>-C<sub>6</sub>-alkynyl)-N-(C<sub>1</sub>-C<sub>6</sub>-alkyl)aminocarbonyl, N-(C<sub>1</sub>-C<sub>6</sub>-alkoxy)-N-(C<sub>1</sub>-C<sub>6</sub>-alkyl)aminocarbonyl, N-(C<sub>3</sub>-C<sub>6</sub>-alkenyl)-N-(C<sub>1</sub>-C<sub>6</sub>-alkoxy)aminocarbonyl, N-(C<sub>3</sub>-C<sub>6</sub>-alkynyl)-N-(C<sub>1</sub>-C<sub>6</sub>-alkoxy)aminocarbonyl, di(C<sub>1</sub>-C<sub>6</sub>-alkyl)aminothiocarbonyl, C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxymino-C<sub>1</sub>-C<sub>6</sub>-alkyl, N-(C<sub>1</sub>-C<sub>6</sub>-alkylamino)imino-C<sub>1</sub>-C<sub>6</sub>-alkyl or N-(di-C<sub>1</sub>-C<sub>6</sub>-alkylamino)imino-C<sub>1</sub>-C<sub>6</sub>-alkyl,  
 25  
 30  
 35 where the alkyl, cycloalkyl and alkoxy radicals mentioned may be partially or fully halogenated and/or may carry 1 to 3 of the following groups: cyano, hydroxyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-alkylthio, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyl,

hydroxycarbonyl, C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1</sub>-C<sub>4</sub>-alkylaminocarbonyl, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)-aminocarbonyl or C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyloxy;

5 phenyl, phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, phenylcarbonyl, phenylcarbonyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, phenoxy carbonyl, phenylaminocarbonyl, phenylsulfonylaminocarbonyl, N-(C<sub>1</sub>-C<sub>6</sub>-alkyl)-N-(phenyl)aminocarbonyl, phenyl-C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl, heterocyclyl, heterocyclyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, heterocyclylcarbonyl, heterocyclylcarbonyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, heterocycloloxy carbonyl, heterocyclylaminocarbonyl, heterocyclylsulfonylaminocarbonyl, N-(C<sub>1</sub>-C<sub>6</sub>-alkyl)-N-(heterocyclyl)aminocarbonyl or heterocyclyl-C<sub>1</sub>-C<sub>6</sub>-alkylcarbonyl,

10 where the phenyl and the heterocyclyl radical of the 17 last-mentioned substituents may be partially or fully halogenated and/or may carry 1 to 3 of the following groups: nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy SO<sub>2</sub>R<sup>20</sup>; -C(O)-[C<sub>1</sub>-C<sub>4</sub>-alkyl-O]<sub>3</sub>-C<sub>1</sub>-C<sub>4</sub>-alkyl; or -C(O)-O-C<sub>1</sub>-C<sub>4</sub>-alkyl-O-phenyl, where the phenyl radical may optionally be substituted by 1 to 3 radicals from the group consisting of halogen and C<sub>1</sub>-C<sub>4</sub>-alkyl;

15 R<sup>19</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-alkenyl, C<sub>3</sub>-C<sub>6</sub>-alkynyl, C<sub>3</sub>-C<sub>6</sub>-haloalkenyl, C<sub>3</sub>-C<sub>6</sub>-haloalkynyl, where the alkyl and cycloalkyl radicals mentioned may be partially or fully halogenated and/or may carry 1 to 3 of the following groups: cyano, hydroxyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>1</sub>-C<sub>4</sub>-alkylthio, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)amino, C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyl, hydroxycarbonyl, C<sub>1</sub>-C<sub>4</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1</sub>-C<sub>4</sub>-alkylaminocarbonyl, di(C<sub>1</sub>-C<sub>4</sub>-alkyl)aminocarbonyl or C<sub>1</sub>-C<sub>4</sub>-alkylcarbonyloxy; or

20 phenyl, phenyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, heterocyclyl or heterocyclyl-C<sub>1</sub>-C<sub>6</sub>-alkyl, where the phenyl and the heterocyclyl radical of the 4 last-mentioned substituents may be partially or fully halogenated, and/or may carry 1 to 3 of the following groups: nitro, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-haloalkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or C<sub>1</sub>-C<sub>4</sub>-haloalkoxy;

25 R<sup>20</sup> is C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl or phenyl,

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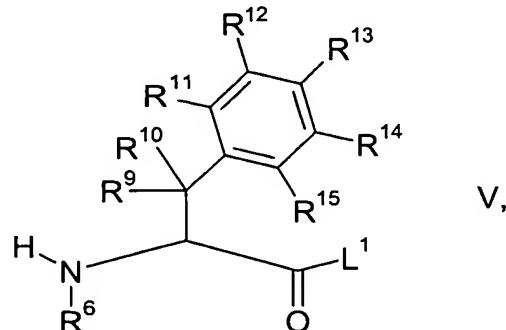
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where the phenyl radical may be partially or fully halogenated and/or may carry 1 to 3 of the following groups: C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-haloalkyl or C<sub>1</sub>-C<sub>6</sub>-alkoxy;

5 or an agriculturally useful salt thereof.

- 2. The benzoyl-substituted phenylalanineamide of the formula I according to claim 1, where R<sup>1</sup> is halogen or C<sub>1</sub>-C<sub>6</sub>-haloalkyl.
- 10 3. The benzoyl-substituted phenylalanineamide of the formula according to claim 1 or 2, where R<sup>2</sup> and R<sup>3</sup> independently of one another are hydrogen, halogen or C<sub>1</sub>-C<sub>6</sub>-haloalkyl.
- 15 4. The benzoyl-substituted phenylalanineamide of the formula I according to any of claims 1 to 3, where R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>10</sup>, R<sup>13</sup>, R<sup>14</sup> and R<sup>15</sup> are hydrogen.
- 5. The benzoyl-substituted phenylalanineamide of the formula I according to any of claims 1 to 4, where R<sup>9</sup> is OR<sup>16</sup>.
- 20 6. A process for preparing benzoyl-substituted phenylalanineamides of the formula I according to claim 1, which comprises

reacting phenylalanines of the formula V

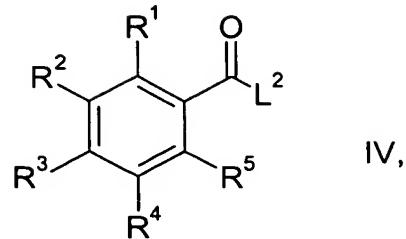


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where R<sup>6</sup> and R<sup>9</sup> to R<sup>15</sup> are as defined in claim 1 and L<sup>1</sup> is a nucleophilically displaceable leaving group,

30 with benzoic acids or benzoic acid derivatives of the formula IV

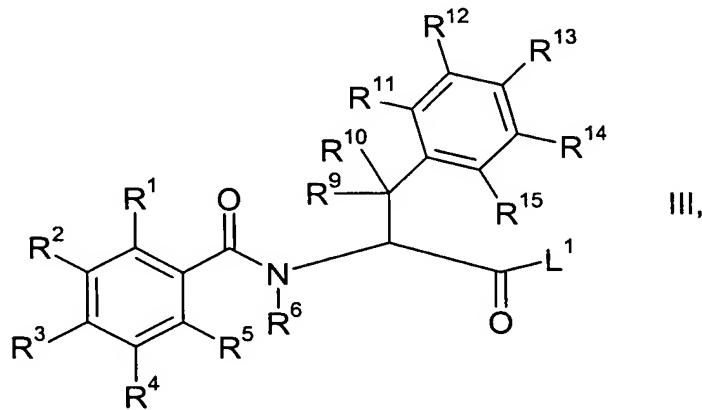
117



where R<sup>1</sup> to R<sup>5</sup> are as defined in claim 1 and L<sup>2</sup> is a nucleophilically displaceable leaving group

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to give the corresponding benzoyl derivatives of the formula III



10 where R<sup>1</sup> to R<sup>6</sup> and R<sup>9</sup> to R<sup>15</sup> are as defined in claim 1 and L<sup>1</sup> is a nucleophilically displaceable leaving group

and then reacting the resulting benzoyl derivatives of the formula III with an amine of the formula II

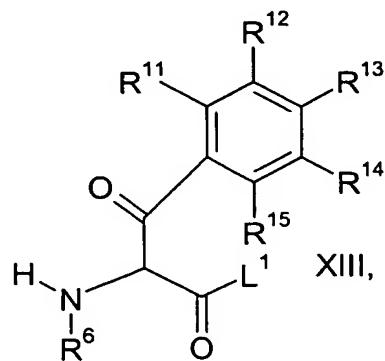
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where R<sup>7</sup> and R<sup>8</sup> are as defined in claim 1.

20 7. The process for preparing benzoyl-substituted phenylalanineamides of the formula I according to claim 6, where R<sup>9</sup> is hydroxyl and R<sup>10</sup> is hydrogen, which comprises converting benzoyl derivatives of the formula III where R<sup>9</sup> is hydroxyl and R<sup>10</sup> is hydrogen by acylation of keto compounds of the formula XIII

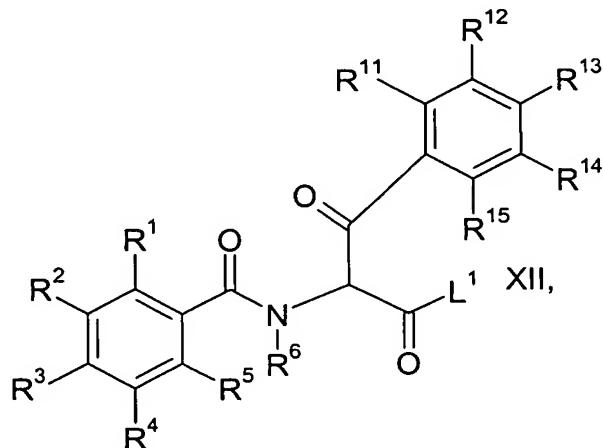
118



where  $\text{R}^6$  and  $\text{R}^{11}$  to  $\text{R}^{15}$  are as defined in claim 1 and  $\text{L}^1$  is a nucleophilically displaceable leaving group

5

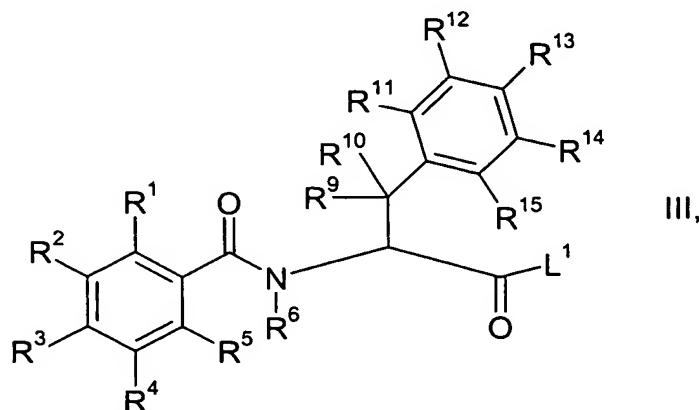
with benzoic acids/benzoic acid derivatives of the formula IV into N-acyl keto compounds of the formula XII



10

where  $\text{R}^1$  to  $\text{R}^6$  and  $\text{R}^{11}$  to  $\text{R}^{15}$  are as defined in claim 1 and  $\text{L}^1$  is a nucleophilically displaceable leaving group, followed by reduction of the keto group.

15 8. A benzoyl derivative of the formula III



where R<sup>1</sup> to R<sup>6</sup> and R<sup>9</sup> to R<sup>15</sup> are as defined in claim 1 and L<sup>1</sup> is a nucleophilically displaceable leaving group.

5

- 9. A composition, comprising a herbicidally effective amount of at least one benzoyl-substituted phenylalanineamide of the formula I or an agriculturally useful salt of I according to any of claims 1 to 5 and auxiliaries customary for formulating crop protection agents.

10

- 10. A process for preparing compositions according to claim 8, which comprises mixing a herbicidally effective amount of at least one benzoyl-substituted phenylalanineamide of the formula I or an agriculturally useful salt of I according to any of claims 1 to 5 and auxiliaries customary for formulating crop protection agents.

15

- 11. A method for controlling unwanted vegetation, which comprises allowing a herbicidally effective amount of at least one benzoyl-substituted phenylalanineamide of the formula I or an agriculturally useful salt of I according to any of claims 1 to 5 to act on plants, their habitat and/or on seed.

20

- 12. The use of a benzoyl-substituted phenylalanineamide of the formula I according to any of claims 1 to 5 or an agriculturally useful salt thereof as a herbicide.